

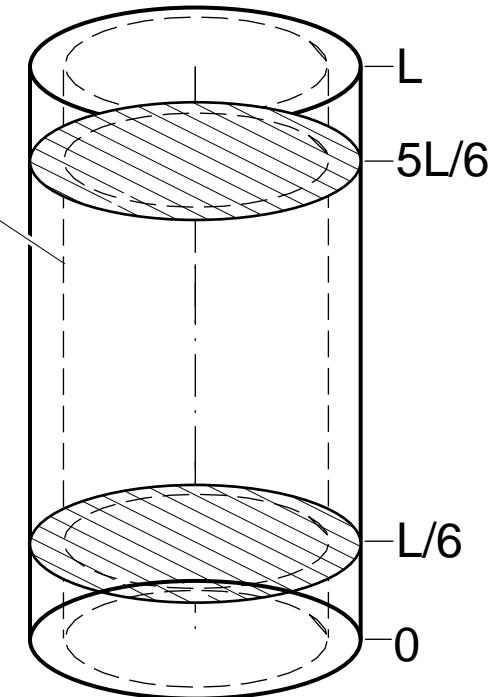
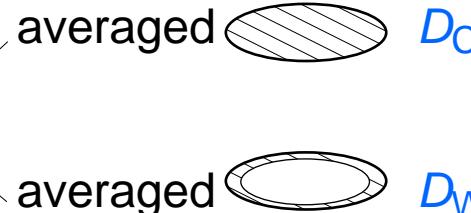
Data Analysis

Time histories of tracer concentration fields for various combinations of R , T and T_z

Two approaches of assessment

- Axial locations $z = L/6$ $c_1(t)$
 $z = 5L/6$ $c_2(t)$

$$\ln [c_1(t) - c_2(t)] = \text{Const} - (\pi/L)^2 D t$$



Codastefano, Di Russo and Zanza, Rev. Sci. Instr. **48** (1977) 1650

- Semi-infinite sample technique

$$\frac{c}{t} = D \frac{\partial^2 c}{\partial z^2}$$

$$\frac{\partial c(0,t)}{\partial z} = 0, \quad t > 0$$

$$c(z,t) = \frac{c_0}{\sqrt{4Dt}} \exp\left(-\frac{z^2}{4Dt}\right)$$

$$m = \frac{\ln c(z,t^*)}{z^2} = \frac{-1}{4Dt}$$

